Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. Applicant/Contact name and address: **SHERMAN & BONNIE ANDERSON**
PO BOX 311
DEER LODGE, MT 59722

2. Type of action: **Application to Change an Existing Irrigation Water Right No. 76G 30149280 (Statement of Claim Nos. 76G 4523 00).**

3. Water source name: **Cottonwood Creek**

4. Location affected by project: **The project place of use for irrigation is located in Sections 7 & 8, T7N R8W, Powell County.**

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

Applicants propose to change their place of use by reconfiguring their historically flood irrigated place of use to center pivot irrigation. Applicants propose to convey water via a gravity flow pipeline for a portion of the distance and will use a 10 horsepower (HP) booster pump to convey water from the gravity feed system to the center pivot. The proposed acreage reconfiguration would move the historical water use associated with the 81-acre flood-irrigated field to 112 acres beneath a proposed center pivot sprinkler. This change application, if authorized, would comingle and supplement some water use with Applicant's Statement of Claim Nos. 76G 126427 and 76G 126428. The place of use for supplemental irrigation will be 112 acres under a full circle pivot in the E2NE Sec 7 and W2NW Sec 8, T7N R8W. The proposed flow rate for this new pivot system is 1.78 cubic feet per second (CFS) with an associated diverted volume of 93.1 acre-feet (AF) per season.

The Department proposes to grant the change in place of use. The proposed action will allow the Applicants to convert to a center pivot sprinkler irrigation system.

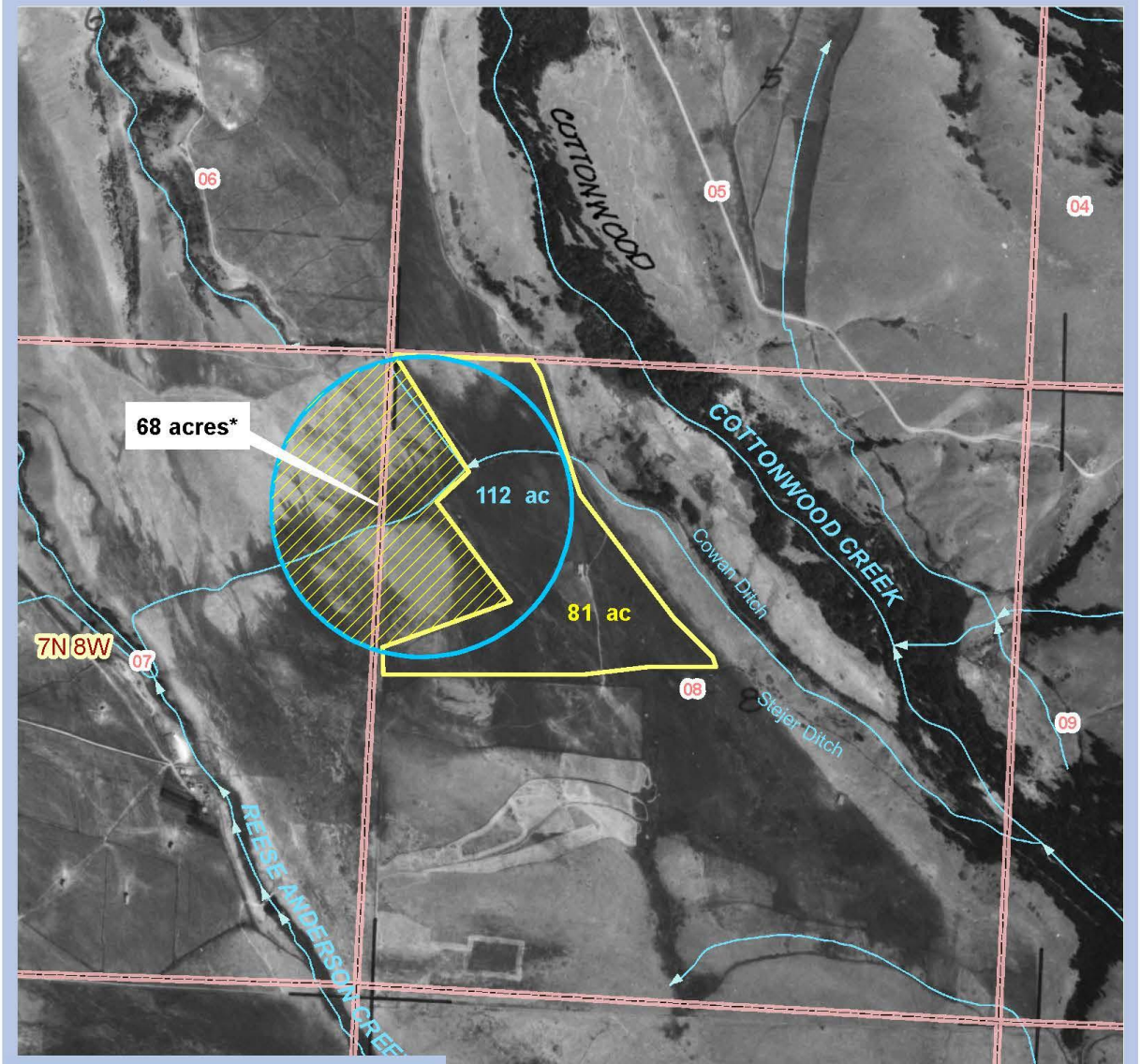
The DNRC shall issue a change authorization if an Applicant proves the criteria in 85-2-402 MCA are met.

6. Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)

Dept. of Environmental Quality Website – Clean Water Act Information Center
MT. National Heritage Program Website - Species of Concern

USDI Fish & Wildlife Service Website - Endangered and Threatened Species
USDA Natural Resources Conservation Service – Web Soil Survey
USDI Fish & Wildlife Service – Wetlands Online Mapper

Change Application No. 76G 30149280 -- Overview Map Showing Proposed Pivots Overlain on Historically Flooded Field



Legend
- Chg App No. 76G 30149280 Historic Flood - 81 ac
- Chg App No. 76G 30149280 Proposed Pivot - 112 ac
- Section
- Range
- Township & Range
- Township
- Streams & Ditches

Callout with acres* indicates the number of "new" acres under the proposed pivot.

N 1:13,937 Map Created: 6/3/2021
0 0.075 0.15 0.3 Miles

Service Layer Credits: Montana State Library

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity *- Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

Determination: **No Significant Impact.**

The source of water associated with this change proposal is Cottonwood Creek in Powell County. According to the dewatered streams layer in ArcMap, Montana Fish, Wildlife & Parks designates the most downstream nine miles of Cottonwood Creek as chronically dewatered. The Department will likely impose a measurement condition to this change application, if granted, to ensure the Applicant does not exceed historical consumptive use on any claims used to water with the new center pivot system. So long as the Applicants adhere to such conditions, no significant impacts to the dewatered condition of Cottonwood Creek are anticipated from the change.

Water quality *- Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

Determination: **No Significant Impact.**

The DEQ website identifies the stretch of Cottonwood Creek in which the Applicants' diversion is located as not fully supporting aquatic life. Probable causes are listed as sedimentation-siltation. The probable sources are not identified. The assessment says Drinking Water, Primary Contact Recreation and Agricultural uses are fully supported. There is low likelihood that water quality will be adversely affected as a result of the proposed project. If granted, Applicants' will continue agricultural practices with a new method of conveyance and irrigation.

Groundwater *- Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

Determination: **No Significant Impact.**

Groundwater tables associated with the irrigated acres may drop slightly due to the conversion of flood to pivot application methods, however the proposed change should not have a significant impact on ground water quality or supply. The area will remain in agricultural production of crops and no other groundwater developments appear in the near vicinity.

DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

Determination: **No Significant Impact.**

It is not anticipated that the proposed change to convey water via a gravity flow pipeline and 10 HP booster pump will have a significant impact on stream channels, riparian areas, or stream flows. The Applicants are proposing to operate the pivot and reduce the historically diverted flow rate from Cottonwood Creek. A portion of historical flood diversions will be left instream during the irrigation season.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

Determination: **No Significant Impact.**

The Montana National Heritage Program lists thirteen animal Species of Concern, four mammals, seven birds, an amphibian and a fish within Township 7 North, Range 8 West. The common names for the four mammals are the Wolverine, Hoary Bat, Long-eared Myotis, and Grizzly Bear. The birds are Northern Goshawk, Golden Eagle, Great Blue Heron, Evening Grosbeak, Cassin's Finch, Clark's Nutcracker, and Long-billed Curlew. The amphibian is Western Toad and the fish is Westslope Cutthroat Trout. The program lists two plant Species of Concern: Whitebark Pine and Idaho Sedge.

The place of use has been previously disturbed by irrigation practices; no impacts to any of the species discussed above are expected.

The USDI Fish & Wildlife Service Website lists three species in Powell County as threatened. They include the Canada Lynx, Grizzly Bear and Bull Trout. It also lists the Whitebark Pine as a proposed species. Although these species are identified in Powell County because one may reasonably expect them to occur there, not all are necessarily found in the area of the project. Additionally, it is unlikely that the proposed action will displace the species, it has been disturbed by past agricultural practices, which will continue.

The proposed project is not located in designated sage grouse habitat.

Wetlands - *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: **No Significant Impact.**

The USDI Fish & Wildlife Service – Wetlands Online Mapper shows forested/shrub riparian wetlands (0.87 acres) within a segment of the footprint of the ditch that will be situated under the new pivot. Aerial photographs indicate the designation consists of a few trees and some shrubbery adjacent to the ditch. Likely, seepage from the ditch is the source of water for the wetland. The Applicants propose to abandon the ditch and place a pivot overtop the historically flood irrigated field. The periods of diversion and use for the water rights to be utilized for pivot irrigation are not changing therefore the designated wetland will continue to receive water during pivot irrigation.

Ponds *- For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: **No Significant Impact.**

This project does not involve a pond. No impact to wildlife, waterfowl, or fisheries is anticipated.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: **No Significant Impact.**

No significant impacts to the soil profile are anticipated, Applicants will continue to use their land for agricultural uses. The proposal includes changing their conveyance method, converting their method of irrigation from flood to sprinkler, and reconfiguring their places of use. The reconfigured acres are generally in areas within or surrounding the historically irrigated footprint. The predominant soil type is Quigley loam, 0 to 4 percent slopes which is generally well drained. The Sodium Adsorption Ratio is very low and should not cause saline seep. It is not projected that soil quality, alteration of soil stability, or moisture content will be negatively impacted by this project.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: **No Significant Impact.**

Construction of a pipeline to the place of use associated with this project is scheduled for the fall of 2021. Normal weed management can be used to control noxious weeds potentially invading disturbed areas due to construction activities and no spread of noxious weeds should be associated with this application. It is the responsibility of the property owner to control noxious weeds on their property.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: **No Significant Impact.**

No impacts to air quality are expected as a result of this proposal; the point of diversion will gravity feed and use an electrically driven booster pump for the new pivot irrigation system.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

Determination: **N/A – project not located on State or Federal Lands.**

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: **No Significant Impact.**

No additional impacts are anticipated.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: **No Significant Impact.**

No locally adopted environmental plans or goals have been identified.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: **No Significant Impact.**

The proposed action is consistent with historical agricultural practices in the area.

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

Determination: **No Significant Impact.**

No impacts to human health have been identified.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*
*Yes___ No__**X**__ If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

Determination: **No known impacts.**

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* **None**
(b) *Local and state tax base and tax revenues?* None
(c) *Existing land uses?* **Applicants' proposal is being limited by their historic consumption. Their method of irrigation is changing from flood to pivot sprinklers and should result in the similar crop yields using less water.**
(d) *Quantity and distribution of employment?* **None**
(e) *Distribution and density of population and housing?* **None**
(f) *Demands for government services?* **None**
(g) *Industrial and commercial activity?* **None**
(h) *Utilities?* **The proposed pivot sprinkler system is designed to be fed by a booster pump and therefore some electricity will be needed to power a 10 HP booster pump.**
(i) *Transportation?* **None**
(j) *Safety?* **None**
(k) *Other appropriate social and economic circumstances?* **None**

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts: **No secondary impacts have been identified.**

Cumulative Impacts: **No cumulative impacts have been identified.**

3. *Describe any mitigation/stipulation measures:*

No mitigation or stipulation measures have been identified by the Applicant. The Department will require the Applicant adhere to measurement conditions and comply with any distribution efforts on Cottonwood Creek.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

No action alternative: Deny the application. This alternative would result in not authorizing the Applicants to change their method of irrigation or reconfigure their historically irrigated acreage.

PART III. Conclusion

1. Preferred Alternative

The preferred alternative is the proposed alternative.

2 Comments and Responses

None Received.

Finding:

*Yes__ No_**X**__ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:

None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524.

Name of person(s) responsible for preparation of EA:

Name: Doug Mann
Title: Hydrologist
Date: 09/24/2021